Class 2 Permit Modification to the Groundwater Monitoring Plans for the 300 Area Process Trenches and the 183-H Solar Evaporation Basins

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Public Meeting

February 28, 2017

Agenda

- Meeting Purpose
- 300 Area Process Trenches Background and Proposed Groundwater Monitoring Plan
- 183-H Solar Evaporation Basins Background and Proposed Groundwater Monitoring Plan
- Question and Answer Session
- Closing

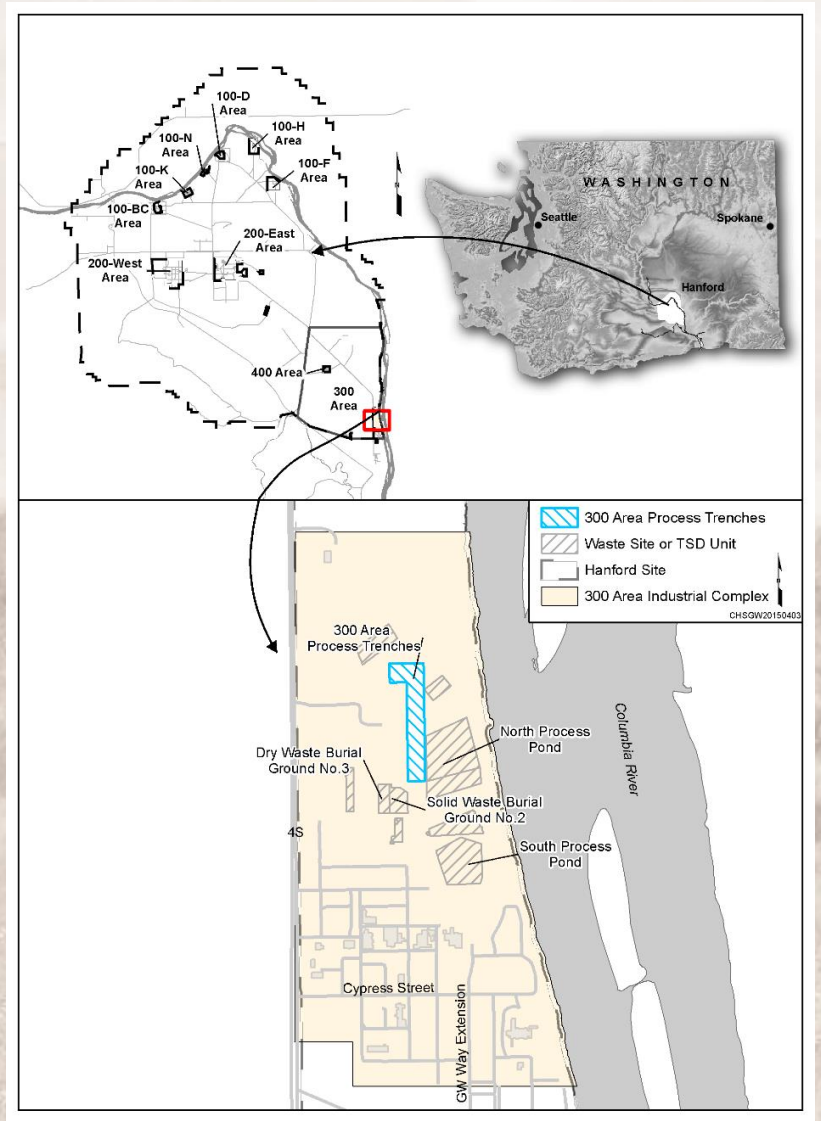
Public Meeting Purpose

- Fulfill the requirements of the Washington Administrative Code (WAC) 173-303-830(4)(b)(iv) for a Class 2 Permit Modification
- Provide information and answer questions on the draft groundwater monitoring plans for the 300 Area Process Trenches and the 183-H Solar Evaporation Basins
- Provide information on ways to submit public comment during the 60-day comment period

300 Area Process Trenches

Background – 300 Area Process Trenches

- Located in the Hanford Site's 300 Area
- Received wastewater from the 300 Area processes from 1975 to 1994
- Consisted of two unlined, 460 m (1,500 ft.) long trenches, excavated 3.7 m (12 ft.) below ground surface



Background – 300 Area Process Trenches

300 Area Process Trenches, looking north - 1976

Background – 300 Area Process Trenches

300 Area Process Trenches, looking south - 1985

300 Area Process Trenches, looking south - 1993

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Background – 300 Area Process Trenches

- Remediation of the site was performed in 1997 and 1998
- Removed and disposed of site structures and contaminated sediment to the Environmental Restoration and Disposal Facility (ERDF)
- Clean backfill was added and revegetation was performed
- Site closed in 1998
  - Post-closure groundwater monitoring required

300 Area Process Trenches, looking south - 1998

Previous Groundwater Monitoring Plans – 300 Area Process Trenches

- Groundwater compliance monitoring program implemented in 1995
  - Chemicals identified were cis-1,2-dichloroethene, trichloroethene and uranium (radionuclide)
  - First groundwater samples exceeded concentration limits
- Corrective action was integrated into CERCLA, known as the Comprehensive Environmental Response, Compensation and Liability Act

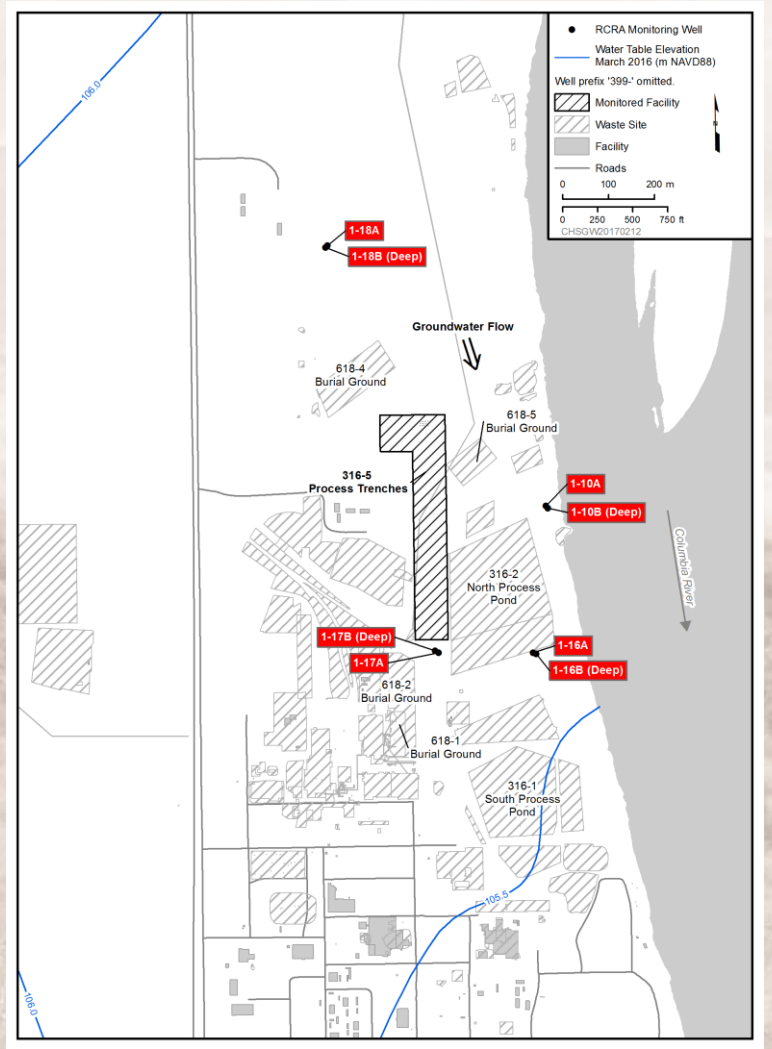
300 Area Process Trenches, looking east - 1999

Proposed Groundwater Monitoring Plan – 300 Area Process Trenches

- Revising plan to align Hanford Site groundwater monitoring to be consistent with current CERCLA cleanup levels
- Uranium (radionuclide) will continue to be monitored under CERCLA
- Constituents iron, manganese, thallium, PCBs, chrysene and benzo(a)pyrene are removed

Proposed Groundwater Monitoring Plan – 300 Area Process Trenches

- Revised plan uses the existing groundwater monitoring well network as identified in the previous plan
- Downgradient monitoring wells represent the point of WAC compliance in the revised plan
- Groundwater wells will be sampled and analyzed semiannually as per WAC



Proposed groundwater monitoring network wells: 399-1-10A, 399-1-10B, 399-1-16A, 399-1-16B, 399-1-17A, 399-1-17B, 399-1-18A, 399-1-18B

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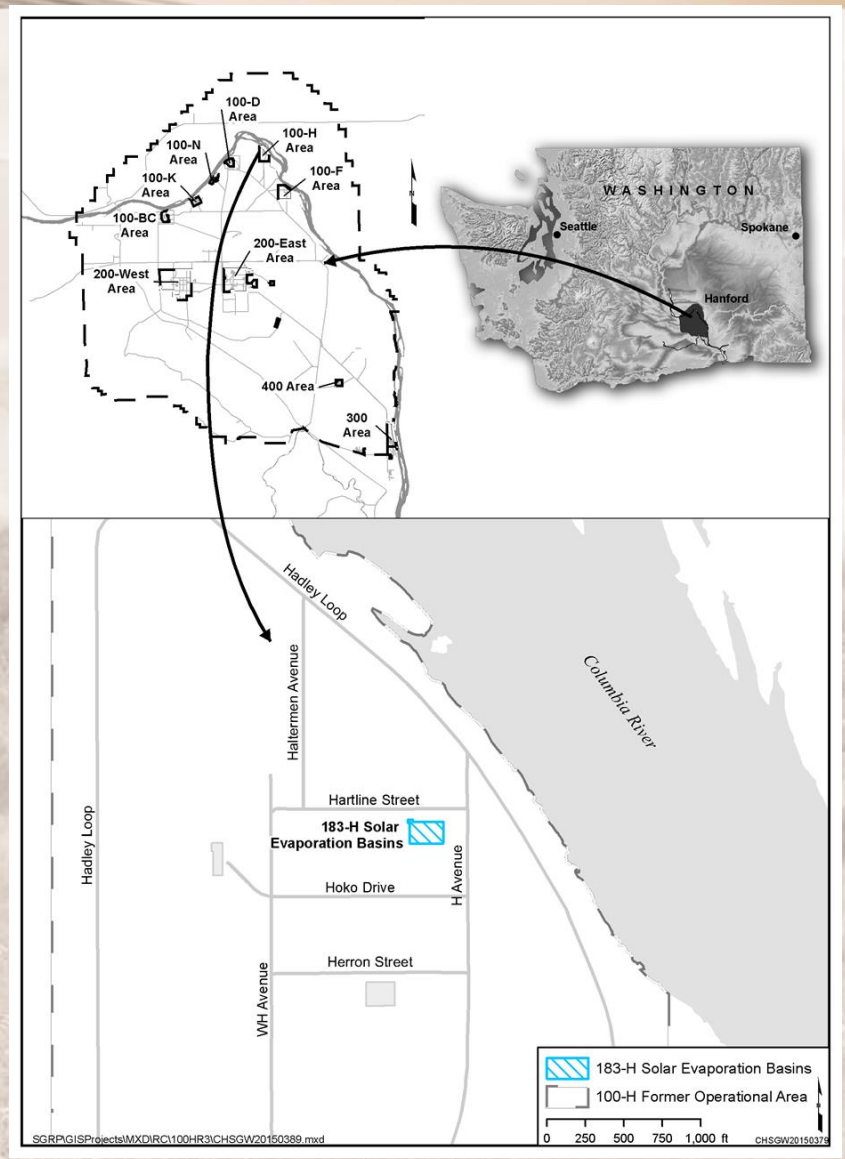
183-H Solar Evaporation Basins

Background – 183-H Solar Evaporation Basins

- Located in the Hanford Site's 100-H Area
- Used as solar evaporation basins from 1973 to 1985
  - Wastewater reduction through evaporation
- Consisted of four concrete basins
  - Three of which had sealant applied

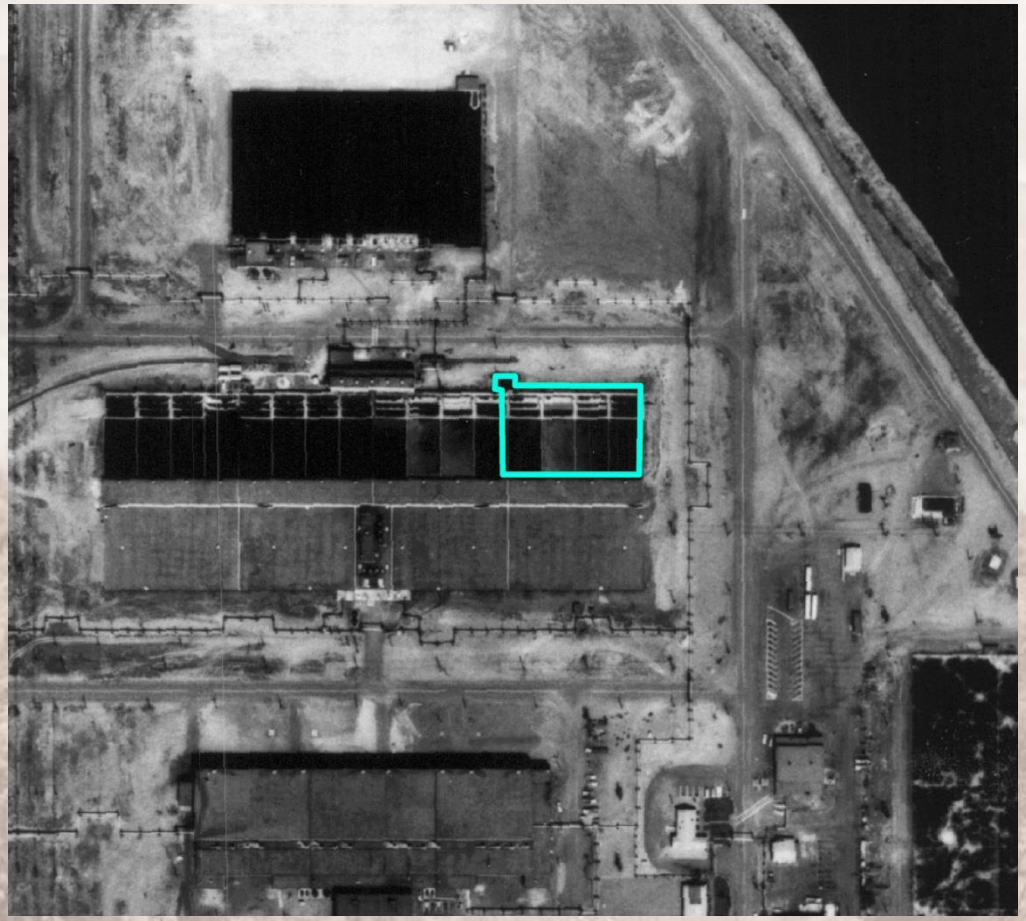


Background – 183-H Solar Evaporation Basins

- The four basins were originally part of the 183-H water treatment plant and operated concurrently with the 105-H Reactor from 1949 to 1965
- 300 Area fuel-fabrication liquid wastes transported to 183-H for evaporation in basins from 1973 to 1985
- All residual waste (e.g., sludge) in the basins removed by the end of 1990

183-H Solar Evaporation Basins, (left photo) looking northeast – 1949 (right photo) looking south -1987

Background – 183-H Solar Evaporation Basins



183-H Solar Evaporation Basins within the 183-H water treatment plant - approximately 1949 to 1965

Background – 183-H Solar Evaporation Basins

183-H Solar Evaporation Basins, looking southwest - 1985

Background – 183-H Solar Evaporation Basins

- Basins demolished in 1996
- Soil removed 0.6 m (2 ft.) below the former basin floor to meet cleanup standards, with excavation 4.6 m (15 ft.) below basin 1 (non-sealed)
- Excavation backfilled with clean soil

Backfilling, looking southwest - 1996

Background – 183-H Solar Evaporation Basins

- WAC regulations allowed for modified closure in 1997
- Clean-closure was not achieved due to high soil levels of fluoride and nitrate

183-H Solar Evaporation Basins, looking north - 2008

Previous Groundwater Monitoring Plans – 183-H Solar Evaporation Basins

- Groundwater compliance monitoring program implemented in 1995
  - Chemicals identified were chromium, nitrate, fluoride, technetium-99 and uranium
  - First groundwater samples exceeded concentration limits with the exception of fluoride
- Corrective action was integrated into the ongoing CERCLA groundwater remediation (pump-and-treat)
- 1997 groundwater monitoring plan replaced the 1995 compliance monitoring plan

Sampling of the 183-H Solar Evaporation Basins, February 1996

Proposed Groundwater Monitoring Plan – 183-H Solar Evaporation Basins

- Revising 1997 plan to update and ensure it contains the most current Hanford Site groundwater monitoring information
- This plan will continue groundwater monitoring for chromium and nitrate
- Constituents uranium, technetium-99 and fluoride identified for monitoring in the 1997 plan are removed from this plan

183-H Solar Evaporation Basins, looking southwest - 2002

183-H Solar Evaporation Basins, looking north - 2015

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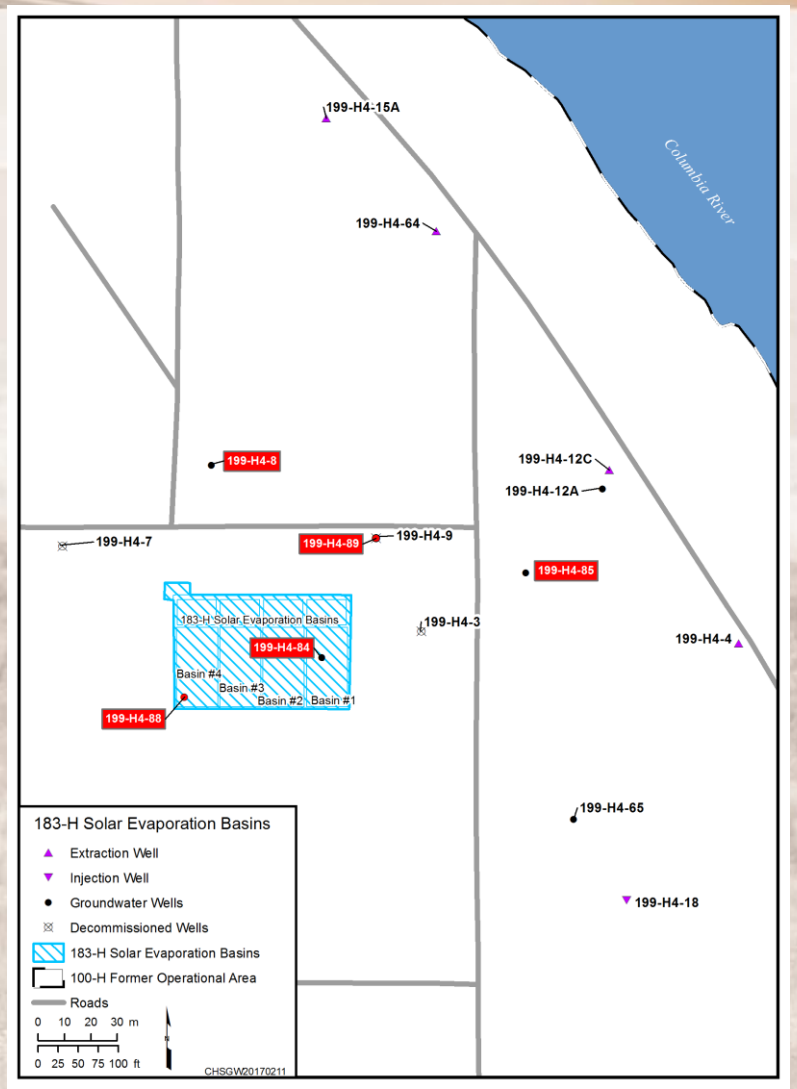
Proposed Groundwater Monitoring Plan 183-H Solar Evaporation Basins

- Revised plan modifies the existing groundwater monitoring well network from three to five wells
- Monitoring network wells represent the point of WAC compliance
- Groundwater wells will be sampled and analyzed semiannually per WAC



183-H Solar Evaporation Basins Proposed Groundwater Monitoring Network Wells: 199-H4-8, 199-H4-84, 199-H4-85, 199-H4-88, 199-H4-89

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Public Comment Opportunities

- Public comments due by March 24, 2017
  - Submit written comments by email Hanford@ecy.wa.gov or mail them to:

    Washington State Department of Ecology

    3100 Port of Benton Blvd.

    Richland, WA 99354

- Ecology will provide responses to public comments as part of the response to comments document

Questions?